

3 Evaluation of Augmentation Components

3.1 Browser Extension Heuristic Evaluation

An early prototype version of the Chrome extension has been evaluated by an expert from ZBW. The evaluation was conducted in April 2014.

3.1.1 Setup

The evaluation was conducted with the following hardware/software settings:

- Operating System: Windows 7
- Browser extension development version from 26.3.2014, version number 0.28
- Installation from source files at github¹
- Chrome version 34.0.1847.116 m

The following aspects were considered during the evaluation:

- Installation and Versioning
- Privacy Settings
- Search
- Visualisations
- Appearance

3.1.2 Evaluation Results

This section reports the results exactly as received from the evaluator including the explanatory screen shots. From these results we derive suggestions for improvement.

Installation and Versioning: According to 'details' on BSCW, the plugin is a 'Stable browser extension after hackathon meeting with auto-update functionality'. Chrome and the EEXCESS extension bear no obvious hint on this. The 'server settings' might indicate a fix version rather than auto-update. Perhaps let the user know – and also decide – whether or not the plugin is automatically updated? The current version is labelled, which is fine. “federated recommender DEVEL” sounds a bit like “federated recommender devil” ...

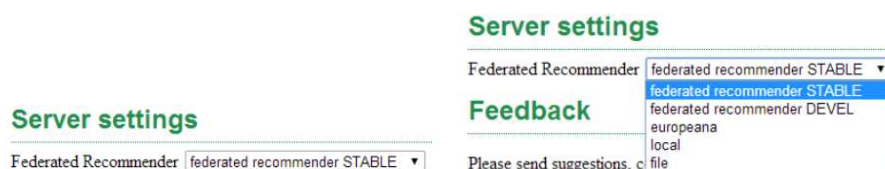


Figure 1: Server settings within the extension

¹purl.org/eexcess/components/chrome-extension



Figure 2: Privacy settings within the extension with different user selections

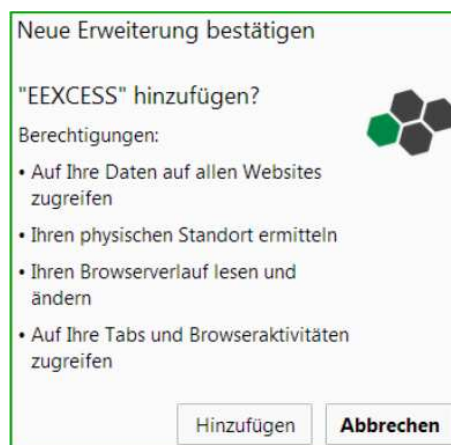


Figure 3: Extension Data Access dialog

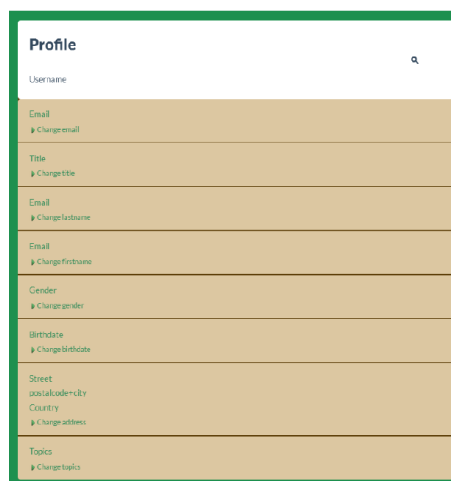


Figure 4: User profile settings within the extension

Privacy: Figure 3 shows the dialog appearing immediately after the installation. Shouldn't the privacy of personal data be configurable right from the start, when installing the plugin?

Clicking on "Change Privacy Settings" at the bottom the blue/colourful privacy windows shown in figure 2 appear.

Here the settings are a bit more intelligible. Still, the setting of 'gender' is not clear ('off', 'on'). What does 'pages' mean for 'geolocation'? The arrow on the bottom right looks as if it could be clicked, but this is not the case. The button at the top "User Profile Settings" discloses a brown window (cf. figure 4). Nothing can be configured here, as it seems.



Figure 5: Rating of search results

What exactly happens here [when rating an item, cf. figure 5] with regard to personal data? Are data transferred (see discussion about the Facebook like button)?



Figure 6: Results for Wikipedia page about Leonor Fini

Search:

[The following paragraph refers to the experiences with the **automatic search term generation for a page.**]

- For the visited page 'Frauenarbeit'² the plugin chooses the search terms *'frauen bearbeiten geschichte frauenarbeit isbn deutschen jahre arbeit gender sozialpolitik'*. EconBiz finds no hits. Without 'bearbeiten isbn' EconBiz offers 1 hit (2 doublets) directly in EconBiz, but not via EEXCESS.
- For the page about Leonor Fini³ the plugin searches *'fini wikipedia leonor one many articles argentine cats paris page'*. The hits don't seem to match Leonor Fini well (cf. figure 6). After marking the title 'Leonor Fini', the search terms are curtailed to 'leonor fini' and the results match better.
- Searching in Wikipedia-de for 'frauenarbeitslosigkeit'⁴ yields the search terms *'frauenarbeitslosigkeit artikel suchergebnisse hilfe suche wikipedia werkzeuge kb wörter okt'*.
- A search in Wikipedia-de for 'Webstuhl'⁵ produces the search terms *'wörter kb webstuhl webstühle webstühlen mär jan loom feb jacquard'*.
- When searching in Wikipedia-en for 'frauenarbeitslosigkeit'⁶, the plugin produces the search terms 'search the wikipedia to results *'page navigation pages help for'* or *'search wikipedia results page pages navigation help frauenarbeitslosigkeit see helpsearching'*.

Maybe the detection of search terms could ignore irrelevant areas of Wikipedia pages? E.g.

```
<p class="mw-search-createlink">... Artikel „Frauenarbeitslosigkeit“ existiert ... nicht. ...</p>,<br><div class="mw-search-result-data">10 KB (1.230 Wörter) - 12:55, 24. Okt. 2013</div>,<br><span class="mw-editsection">...<a href="...action=edit..."<br>title="Abschnitt bearbeiten: Reformen ...">Bearbeiten</a>...</span>
```

Admittedly, this might be laborious for all page types of the entire internet ...

[The next paragraph refers to the user experience with **automatic search term generation for a selected text.**]

When marking the literature reference 'English women enter the professions', the plugin searches with *'english women enter professions'* and finds the associated record in EconBiz, though at position 20 in the hit list. Marking 'Black Women and White Women in the Professions: Occupational Segregation by Race and Gender' produces the search terms 'women black white professions occupational segregation race gender' and places the EconBiz entry at the first position. This raises the question of the metadata fields to be considered in searches. If some metadata fields are prioritised over others, they might not be the same for the different holdings/partners. The title field, for example, might be more important for literature than for archaeological objects or photographs. Perhaps a context menu (right mouse button) could allow choosing the field (e.g. title, full text, image caption, ...) to which to apply the marked text? Or the context of the marked text within the web page being visited could hint at a field? Again, while this might be feasible for Wikipedia, it wouldn't for all page types of the entire internet. What about semantically tagged web pages (Schema.org)?

[The next paragraph refers to the **UI components for search.**] The plugin starts searching automatically when a web page is visited or text is selected. Typing in the search field, however, does not trigger a search.

²<http://de.wikipedia.org/wiki/Frauenarbeit>

³http://en.wikipedia.org/wiki/Leonor_Fini

⁴<http://de.wikipedia.org/wiki/Special:Search?search=frauenarbeits-losigkeit&go=Go>

⁵<http://de.wikipedia.org/w/index.php?title=Spezial%3ASuche&profile=default&search=webstuhl&fulltext=Search>

⁶<http://en.wikipedia.org/w/index.php?search=frauenarbeitslosigkeit&title=Special%3ASearch&go=Go>



Figure 7: FacetScape Filtering based on providers

Visualisations: [The following comments refer to the **FacetScape** visualisation.] What exactly do the numbers say? Although it might be guessed ... The differently broad green colouring of 'provider' is nice. (cf. figure 7).

[The following comments refer to the **Graph** visualisation.]



Figure 8: Graph vis

Hm ... no graph appears. In the field 'title' typing is possible. The row below requires scrolling to be visible. A click on 'redraw' does not render a graph (cf. figure 8). Changing server settings from "federated recommender stable" to "federated recommender devel" also does not help. What would do the trick?

Appearance: In the Europeana result window, the font of the central content (the description), is much bigger than in the Mendeley and EconBiz result windows. Some examples of results looking odd in different aspects (searching for 'Möhrchen' and for 'Münster') (cf. figure 9, left and center). Some annotation (e.g. mouse-over) might simplify the use of the buttons. Currently, only the related URLs hint at the buttons' function (cf. figure 9, right).

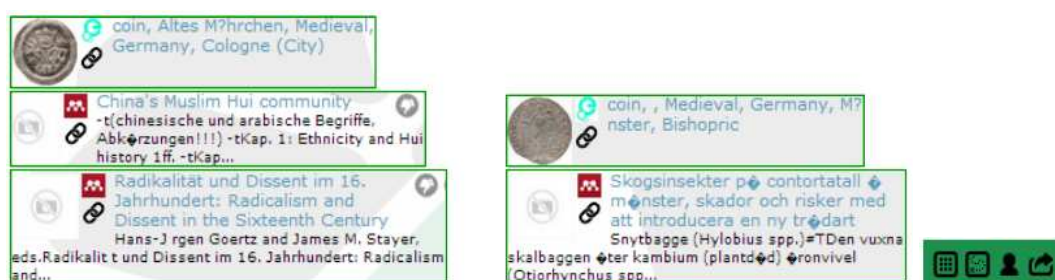


Figure 9: Appearance of search result list (left and center) and buttons (right)

3.1.3 Derived Suggestions for Improvement

The evaluation revealed issues of the early prototype in terms of functionality and in terms of usability. Table 1 provides a summary of the issues extracted from the evaluation report in the previous section. The last column indicates the status of the issue in the first public prototype: "R" (research) means, the issue is part of ongoing research in the respective work packages, ✓ means this issue is fixed, "—" means the issue can not or will not be solved.

Table 1: Summary of suggestions from the evaluation. Column “status” shows the status of the issue in the first public prototype (Oct, 2014). “R” means this is an ongoing research issue, ✓ means the issue is solved, and “–” means this issue cannot or will not be solved.

Suggestion	Solution	Status
INSTALLATION & VERSIONING		
“Let the user know – and also decide – whether or not the plugin is automatically updated? ”	The first public prototype is provided through the Chrome WebStore, where automatic updating is required by the store and default for all applications.	✓
Confusing server settings and naming	For the public prototype the settings will not be accessible by users since only one fixed server (stable) will be used.	✓
Privacy configurations already at the beginning	The notification window is default for Chrome extensions and shows the general access rights granted to the application. This can not be changed by an extension. Privacy settings are initially set to a very restricted level.	✓
Improve usability of privacy settings window	Provide help. Research on how to show users what the settings mean.	R
Missing transparency of data sent (rating)	Needs to be solved. Transparency and user control is a project goal. Best way has to be identified (WP6).	R
SEARCH		
Improve search term generation	Is an ongoing research issue in WP5 and WP3.	R
Show which metadata fields are searched.	The fields may differ for different partner recommenders. Implementation details are not visible by the federated recommender. Not feasible.	–
Search is not automatically issued when typing keywords	This is standard behaviour of web search fields. Multiple terms are possible, which makes it impossible to quickly determine when the user really finished typing his or her query. Sending a search after each term and only show the results of the final query would increase the data transfer unnecessarily and diminish performance	–
VISUALISATIONS		
Explain numbers in FacetScape	Provide help for FacetScape visualisation.	✓
Graph does not work	Is not included in the public prototype, needs more research. Display issue was fixed.	–
APPEARANCE		
Provide tooltips for buttons.		✓
Improve display of search result list		✓